

NEW SPECIES OF LEPTONEMA GUÉRIN FROM MADAGASCAR (TRICHOPTERA)

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When studying Caddis Flies in the National Museum of Prague, Czechoslovakia, I had the opportunity to name a small collection of Madagascan Trichoptera belonging to the genus *Leptonema*. Two new species from this material are described below. Two already described species are discussed.

Leptonema zahradniki spec. nov. (fig. 1—4)

This species is dedicated to my colleague, Dr. J. ZAHRADNIK, to whom I am indebted for allowing me to study the collection of the National Museum in Prague.

Typical locality: Madagascar, leg. OLSOUFIEFF.

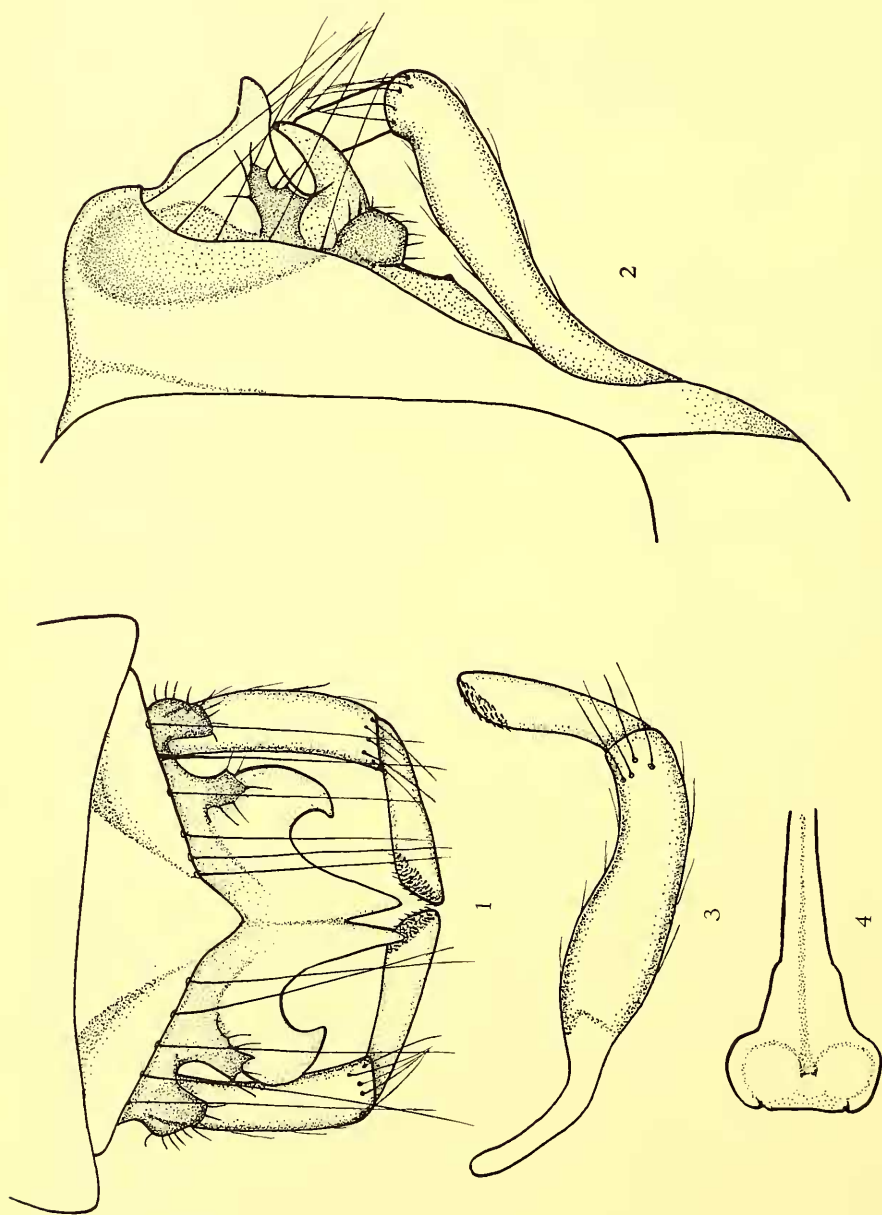
Material: Holotype, 1 ♂. Paratypes, 3 ♂. Deposited in the collection of the National Museum, Prague.

This species differs from all other species of *Leptonema* described from Madagascar in the anatomy of the male genitalia and of the tenth segment. There are four processes projecting from the tenth segment, which are characteristic for this new species (fig. 1, 2). Some characteristic differences are also found in the shape of the clasper (apical joint) and in the aedeagus.

Head, antennae, palpi and legs pale brown, abdomen brown, on the dorsal side dark brown, ventral pale brown. Anterior wings yellowish, at the apex with pale brown reticulation.

Male genitalia. The ninth segment strongly sclerotised, with a triangular projection on the dorsal side. Tenth segment, viewed dorsally, is very broad, with four processes on either side. The basal processes are oval, the caudal are sickle-shaped. The caudal end of the tenth segment is only slightly excised in the bilateral process. On the laterodorsal side at the base of the tenth segment there is a quadrangular projection armed with hairs (this is a bigger basal "wart" than that of *L. affine* Ulm. discussed by Mosely, 1933). All four of these processes are visible in lateral aspect. They are proportionally bigger than those of *L. affine* Ulm.

The main body of the tenth segment is smaller than that of *L. affine* Ulm. The clasper is two-jointed and has a long basal segment, thick in the middle and strongly tapering towards the apex. This segment is somewhat curved medially at the base. The terminal segment is longer than that of *L. affine* Ulm. and is similar to that of *L. madagascariense* Ulm. but it is straight and obliquely truncate at the apex. The aedeagus is very broad at the apex and tapering towards the base.



Figs. 1—4. *Lepronema zabradniki* sp.n., ♂. Fig. 1, genitalia, dorsal; fig. 2, lateral; fig. 3, aedeagus, ventral; fig. 4, clasper, ventral

The apical part is bulbous and on the caudal end truncate. This part is nearly completely covered with a rather transparent sclerite which has the shape of a pair of spectacles (ventral view).

Length of ♂ body, 11 mm, of anterior wing: 16 mm.

Leptonema milae spec. nov. (fig. 5—9)

This species is dedicated to my colleague, MÍLA VOŠAHLÍK.

Type locality: Madagascar, leg. OLSOUFIEFF.

Material. Holotype, 1 ♂; paratypes, 3 ♂, deposited in the collection of the National Museum, Prague.

This species is characterized by the anatomy of the male genitalia, by the shape of the tenth segment, and the aedeagus. Typical for the aedeagus of this species is the caudal projection, visible as a strong, brown spine (lateral view). The lateral processes of the tenth segment have a characteristic shape. Also in the colour of the anterior wings, which are yellowish, with some brown spots only, does *Leptonema milae* spec. nov. differ from all other species described in this paper.

Head, palpi, antennae, legs pale brown, thorax brown, abdomen brown. Anterior wings yellowish with golden pubescence and about 6 brown spots. On the apical end of subcosta and radius is situated the initial point of a spot, which continues towards the base of the apical fork 1 and is more conspicuous on the cross-vein of the discoidal cell. The second spot is situated on the median cell, the third one on the base of the apical fork 5 and extends to the arculus. The fourth spot lays on the cross-vein between cubitus and anal 1. The last spot, on the proximal part of anal 2. The apex of the anterior wings is light brown. The posterior wings are light grey.

Male genitalia. The ninth segment has a triangular projection on the dorsal side. On the caudal end of this segment there is a non-pigmented, clear, long spot with long spines. The tenth segment is broad, in the middle of the caudal margin with a deep and broad excision. This segment is divided into four processes, on either side, the two basal of which are rounded at the apex and covered with hairs. The lateral process is larger than the median (dorsal view). These processes are virtually oval also when viewed laterally. Laterocaudally there are two processes on each side, from which the median is triangular, the lateral blunt and sickle-shaped. In lateral aspect the caudal process appears to form the main part of the tenth segment. The latero-caudal process is an upturned spur with an acute apex, when seen from the side. The clasper is two-jointed with the basal segment very long and thick towards the base and somewhat thick towards the apex. Therefore this segment is constricted towards its base. The apical segment is small, at the apex obliquely truncate, the inner surface of the apex is covered with small, black, blunt teeth. It widens towards the apex and the base is constricted at the centre. Aedeagus with a slender stem and bulbous apex, which is armed in the middle of the caudal end with a membranous triangular process (ventral view). This process viewed laterally has the shape of a brown strong spine, which projects from the bulbous

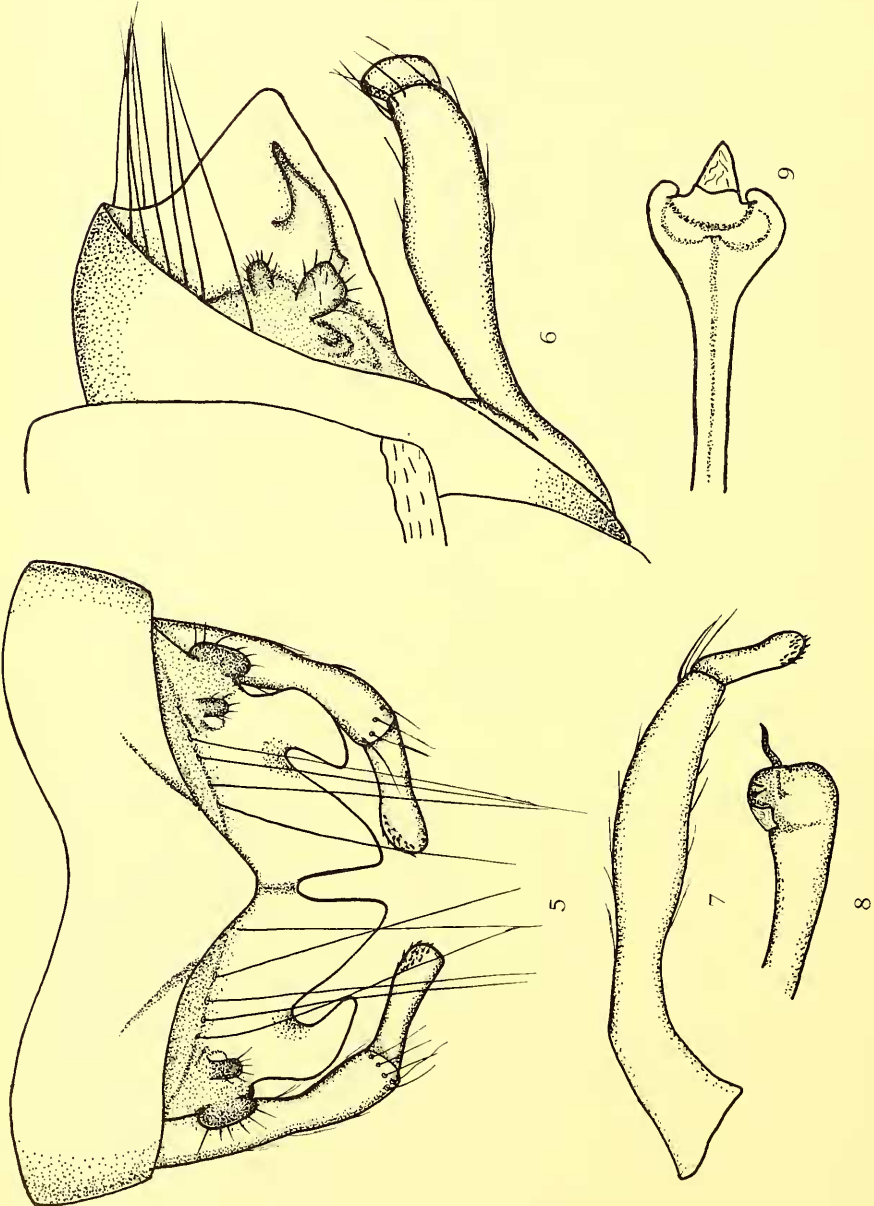


Fig. 5—9. *Leptonema milae* sp.n., ♂. Fig. 5, genitalia, dorsal; fig. 6, lateral; fig. 7, clasper, ventral; fig. 8, aedeagus, lateral; fig. 9, ventral

part. Viewed laterally the aedeagus is thick in the apical part, with a transparent, membranous part dorsally of its apex.

Length of ♂ body: 11 mm, length of anterior wing: 17 mm.

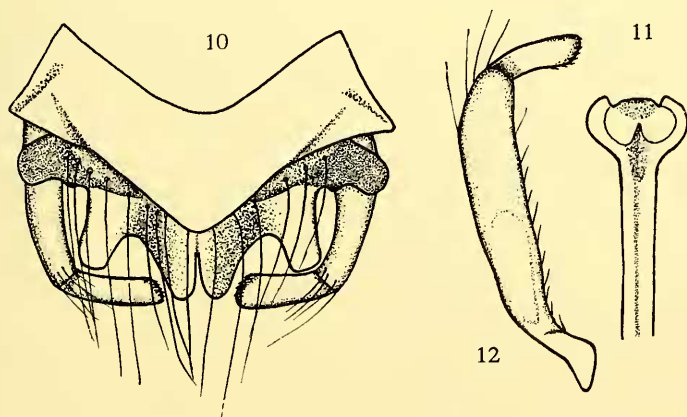
Leptonema displicens Navas (fig. 13—16)

Macronema displicens Navas, 1935, p. 73—74.

During my visit to Paris in May 1963 I saw the type of this interesting species in the collection of the Muséum National d'Histoire Naturelle. Now I am able to figure and describe the genitalia of the male from the collection of the National Museum, Prague.

This species is very similar to that of *L. affine* Ulm., but differs on first sight in the size and colour of the wings. Head, antennae, palpi, legs and abdomen pale brown. Anterior wings are yellowish, with some brown reticulation and some brown spots. The largest spot is situated on the basal end of apical fork 1, extends on the apical end of radius, subcosta and the cross-vein between radius and radial sector, so that the centre of this spot is light. Another remarkable spot is on the arculus, one more on the cross-vein between cubitus and anal-vein, one in the apex.

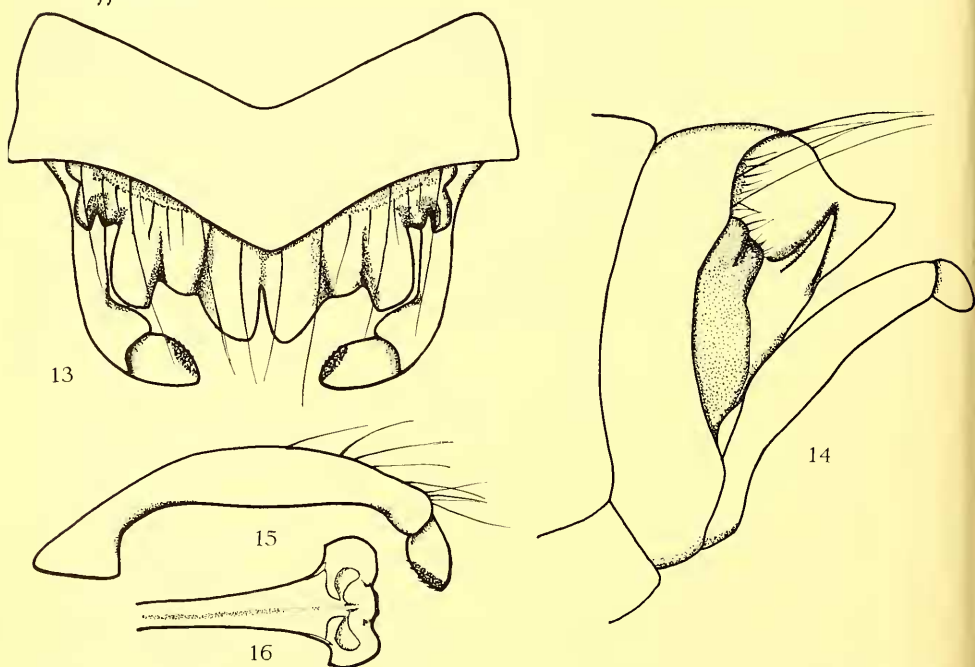
Male genitalia. The tenth segment is divided into four processes on either side (dorsal view), from which the medio-caudal one is triangular; the lateral is nearly angular, but viewed laterally this process is shaped as an upturned acute spur. The two basal processes are relatively small, but the lateral one is larger, in the form of a halfmoon. Viewed laterally the main part of the tenth segment forms the caudal process. Viewed dorsally (fig. 13) the whole surface of the tenth segment seems to be corrugated, mainly between the caudal and lateral processes. The clasper is two-jointed, with the basal segment very long and thick in the middle. The apical joint is small, oval with some blunt teeth on the inner surface of the obliquely truncate apex. The aedeagus shows a slender straight stem with a bulbous dilatation at the apex. From the ventral side there are two lateral projections on either side and a blunt and relatively wide projection in the centre of the apex.



Figs. 10—12. *Leptonema affine* Ulm., ♂. Fig. 10, genitalia, dorsal; fig. 11, aedeagus, ventral; fig. 12, clasper, ventral

Leptonema affine Ulm. (fig. 10—12)

1 ♂ in the collection of the National Museum, Prague. This is a rather small species. The specimen in the National Museum has a great basal process and a long terminal segment of the clasper. Unfortunately, I have not enough material available to be able to state definitely whether this specimen is different from *L. affine* Ulm.



Figs. 13—16. *Leptonema displicens* Nav., ♂. Fig. 13, genitalia, dorsal; fig. 14, lateral; fig. 15, clasper, ventral; fig. 16, aedeagus, ventral

SUMMARY

Two species of caddis-flies of the genus *Leptonema* from Madagascar are described, differing from each other mainly by their genitalia (Figs. 1—9) and slightly by the colouring of the wings. Both species are related to the Madagascan *L. affine* Ulm., but differ mainly by the shape of the projections of the tenth segment, by the size and shape of the apical segment of the clasper and by the shape of the aedeagus. The material is deposited in the National Museum of Prague. Two already described species are discussed.

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